

Supplementary data

The impact of systemic treatment on brain metastasis in patients with non-small-cell lung cancer: A retrospective nationwide population-based cohort study

JS Lee¹, JH Hong², DS Sun³, HS Won³, YH Kim¹, MS Ahn⁴, SY Kang⁴, HW Lee^{4*}, YH Ko^{3,5*}

¹Department of Rehabilitation Medicine, Uijeongbu St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

²Division of Oncology, Department of Internal Medicine, Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

³Division of Oncology, Department of Internal Medicine, Uijeongbu St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

⁴Department of Hematology-Oncology, Ajou University School of Medicine, Suwon, Republic of Korea

⁵Cancer Research Institute, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

Supplemental Table 1. Incidence of initial and subsequent brain metastasis according to systemic treatment (n = 29,174)

	CC group* (n = 13,564)	TT group [†] (n = 15,610)	Total (n = 29,174)	<i>P</i> -value
Within 3 months of diagnosis [‡]	2,434 (17.9%)	4,282 (27.4%)	6,716 (23.0%)	0.082 ¹
More than 3 months after diagnosis [¶]	576 (2.2%)	550 (5.3%)	1,126 (3.9%)	
Brain metastasis, N (incidence, %)	3,010 (20.1%)	4,382 (32.7%)	7,847 (26.9%)	<0.0001 ²

*CC group: Patients who received CC as the first-line treatment were regarded as having no EGFR/ALK aberration.

[†] TT group: Patients who received TT as the first-line treatment were regarded as having EGFR/ALK aberration.

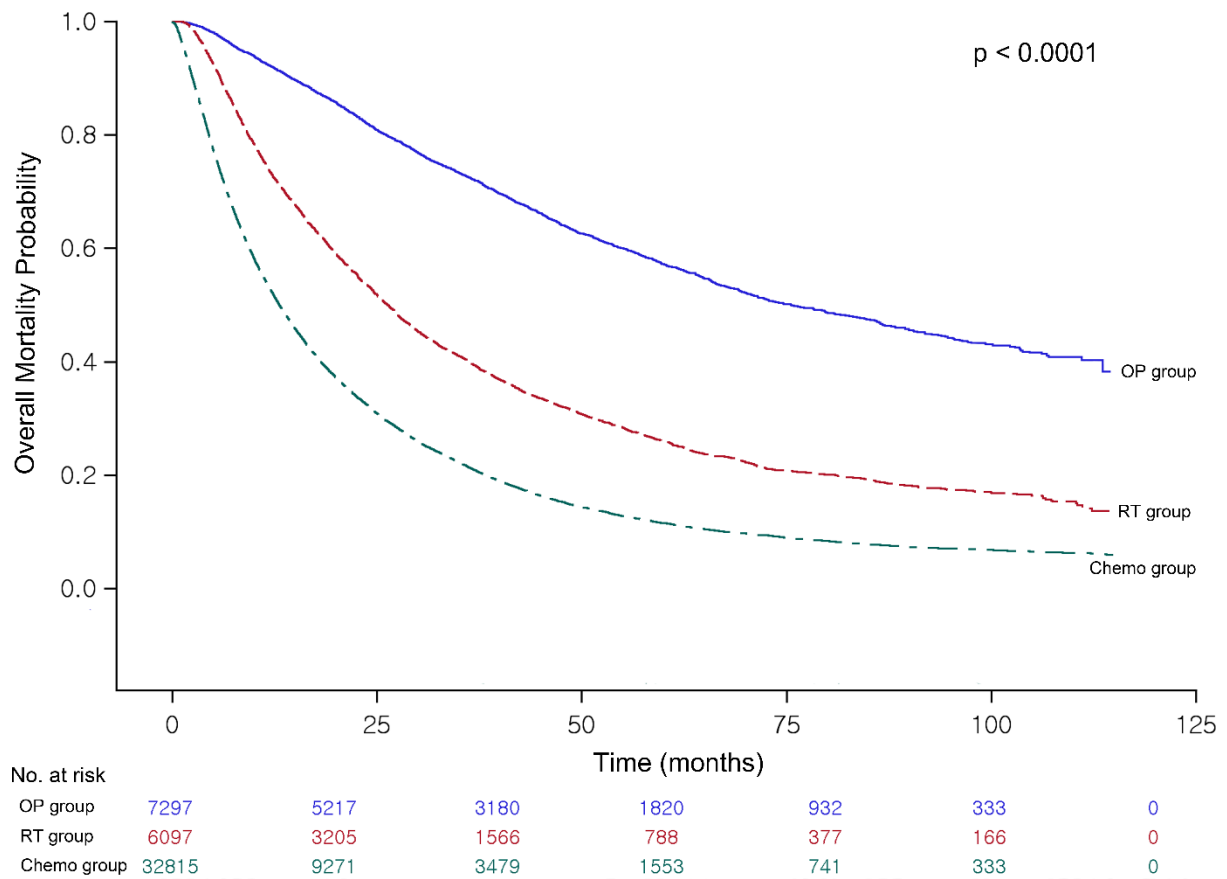
[‡] Patients developed brain metastasis within 3 months of diagnosis of stage IIIB or IV NSCLC.

[¶] Patients developed brain metastasis more than 3 months after diagnosis of stage IIIB or IV NSCLC.

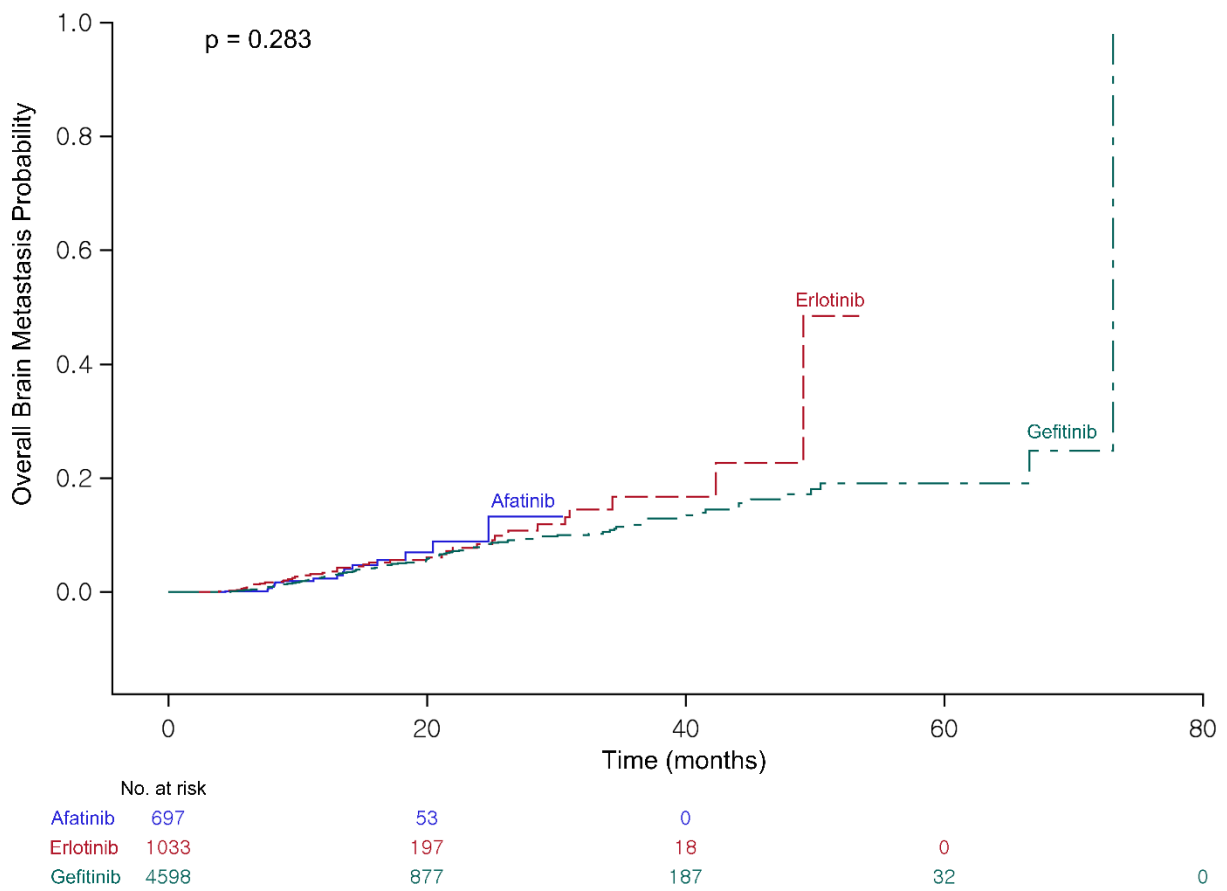
¹Pearson's chi-squared test.

²Two-sample proportion z-test.

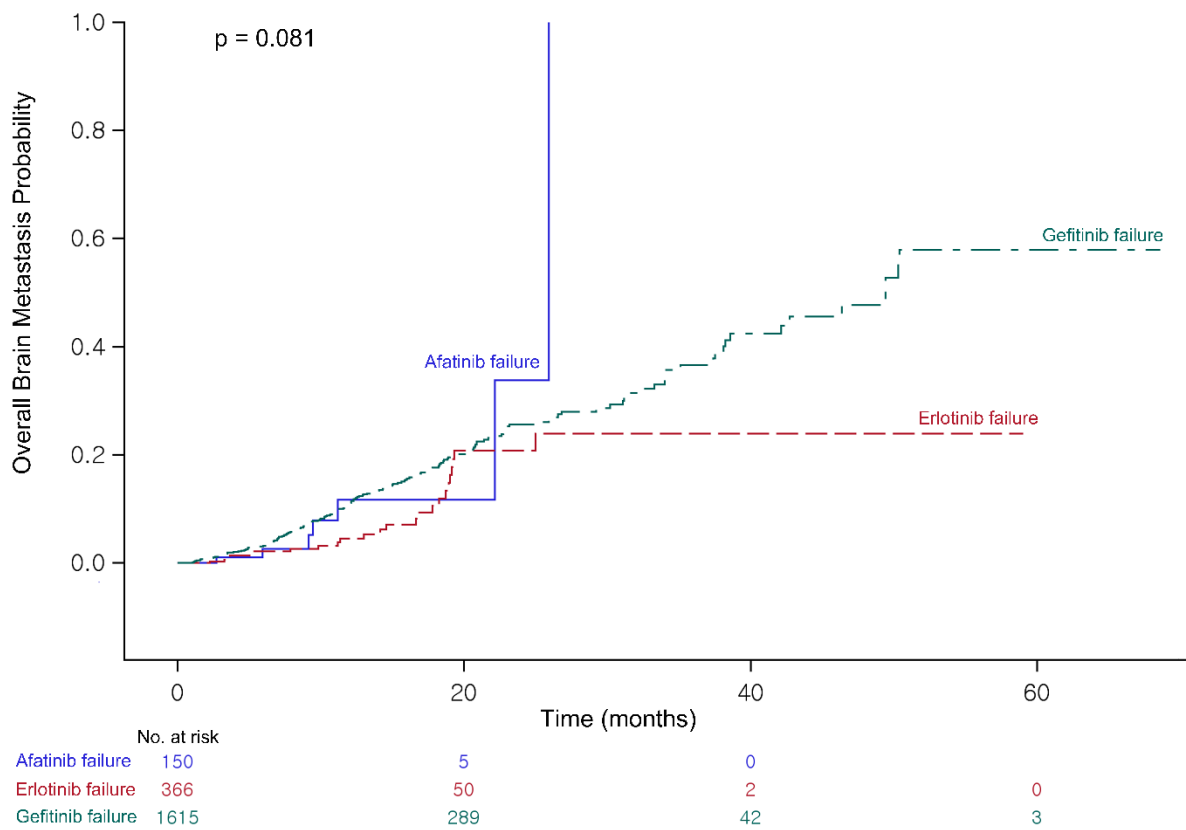
Supplemental Figure 1. Survival curve of newly diagnosed NSCLC patients who underwent lung surgery (blue line) vs. radiation therapy (red line) vs. palliative chemotherapy only (green line).



Supplemental Figure 2A. Overall cumulative incidence of subsequent brain metastasis in NSCLC patients according to the epidermal growth factor receptor (EGFR) - tyrosine kinase inhibitor (TKI) administered as the first-line treatment during the observation period.



Supplemental Figure 2B. Overall cumulative incidence of subsequent brain metastasis in NSCLC patients according to the epidermal growth factor receptor (EGFR) - tyrosine kinase inhibitor (TKI) administered as the first-line treatment after second-line treatment following failure of the first-line EGFR-TKI.



Supplemental Figure 3. Overall survival of NSCLC patients according to first-line treatment with CC or TT during the observation period. CC, cytotoxic chemotherapy; TT, targeted therapy.

